The Ballarat Naturalist

February 2006



Trailing Goodenia
Goodenia lanata
(Club Logo)

Freshwater Biology

by Alison Pouliot.

The Yarrowee-Leigh River has its source in the Ballarat area and flows 140 km southward to meet the Barwon River at Inverleigh. This river was the main focus of a talk by Alison Pouliot, a freshwater biologist and freelance environmental photographer. Alison, who did her study of the Leigh River two years ago, has also worked for the CSIRO at Kakadu and recently returned to Australia after eight months in Central Europe.

In 1992 concerns about the health of rivers and creeks led to the formation of Waterwatch and the research projects funded by Central Highland Water and the Corangamite Catchment Management Authority. Factors affecting the Leigh River which were causing the concern included the sedimentation from sluicing during the goldmining era, increasing pressure of urbanisation of Ballarat, erosion, elevated nutrient levels from water treatment plants and agriculture.

While a water sample can provide information on pH, salinity, turbidity, acidity etc., it is only a snapshot of water quality at the time that the sample was taken. Alison said that a survey of invertebrates living in the water can provide clues to health of the stream over a longer period. When a stream is in a healthy condition a large variety of species can be found whereas when polluted fewer species can be found. Aquatic macro-invertebrates are recognised as important indicators of ecosystem health. Over time, the presence or absence of particular families of this group can provide important information on a river's condition. For example, Caddis Fly larvae are very sensitive to water quality, Water Fleas are less sensitive and, on the other hand, Water Snails are more tolerant of poor water quality.

For her talk Alison brought along beautiful displays and posters of the Leigh, Moorabool and Woady Yaloak Rivers showing her skill as a photographer. Her slides showed scenes along the rivers. On the upper section of the Yarrowee near the Garibaldi Bridge, algae could be seen in the water. High levels of nitrogen at 17ppm. and phosphorus at

67ppm.have been measured here. The middle reaches of the Yarrowee-Leigh River cross mostly agricultural land with steep escarpments, rocky gorges, undulating valleys and river flats. The gorges provide important habitat for echidnas, wallabies, kangaroos, platypus and larger birds including Wedge-tailed Eagles and Powerful Owls. Riparian tree species include Redgums, Woolly Tea tree, River Bottle Brush, and Black and Silver Wattles. The lower reaches of the Leigh River meander through a flatter landscape and provide important habitat for Spoonbills, Ibis, Herons, Grebes, and Wood and Black Ducks.

On a more positive note Alison mentioned the improvements that have taken place in recent years. Efforts to protect and rehabilitate the catchments with various Landcare projects are underway. These include fencing, installation of stormwater litter traps, construction of walkways, weed and erosion control, restoration and revegetation of riparian regions. These efforts also contribute enormously to changing public perceptions of the river from an urban drain to a valuable resource.

Les Hanrahan

FNC Ballarat Minutes of General Meeting 2 Dec. 2005

The President welcomed 26 members and visitors.

Apologies have been received from: Helen Burgess, Avis Barlow, Pat & Bill Murphy, Del McDonnell, Genny Binns, Margaret Martin, Lorraine Fink.

Business Arising: Nil

Correspondence

IN:

- Letter from Glenelg Hopkins CMA inviting nominations for 4 advisory groups to be established as part of re-structuring.
- BOCA appeal

OUT:

- Phone call to Margaret Rotheram advising her that Greg and Genny Binns had visited Florence Williamson who had enjoyed their visit.

Reports

- Australian NH Medallion presentation – Greg Binns attended and summarised the nature of Pauline Reilly's work, especially on penguins in the sub-antarctic and Antarctica.

- Lake Burrumbeet Advisory Committee attended by Greg Binns. Included figures on amount of water need to maintain the lake v. evaporation.

General Business

- Xmas breakup BBQ at Carol's, noon on Saturday December 10th . BYO meat, drink, chair and a salad or sweet to share.
- Farewell to Fran Hanrahan and many thanks for her work on the committee, including editing the newsletter this year. She is off to Malawi in late January for 2 years.
- Reminder about February meeting – Tony Wilson to speak on *Birds and Flowers of WA.*

Show and Tell

- Greg Binns showed us the case of the Saunders Case Moth which had the pupal skin of the male protruding from the bottom after the moth emerged. Greg summarised the life cycle of the moths, explaining how only the male had wings, mated with the female in the case then left.

Field Reports

- Dulcie Brooke: in Wendouree, newly flowering callistemon providing nectar for New Holland Honeyeaters.
- John Gregurke: at Wendouree in November – Masked Lapwing hatched 4 chicks on the Dowling/Grevillea roundabout after raising 2 chicks from a previous clutch. Onion orchids on 3 nature strips on Webbcona estate (settled for 30+ years). Also in back lawn of house in Ballarat East (c. 60 years old).
- Greg Binns: at Devil's Kitchen, Piggoreet - 2 juvenile Peregrine Falcons and 1 adult observed on escarpment opposite nest site (3 young earlier in nest).
- Greg Binns & John Gregurke: on Lake Burrumbeet – Pink-eared Ducks in big numbers, fewer Chestnut Teal, Shovelers, Stilts; 26 Pelicans. Sharp-tailed Sandpipers, Red-necked Stints, Red-capped Plovers.
- Ken Hammond: in Wendouree garden – Silvereyes, Brown Thornbills.
- Elizabeth Fitzpatrick: Lakes Entrance: TAFE courses in forestry and conservation.
- Carol Hall: early December at Lake Wendouree, a Little Egret in breeding plumage feeding between Durham Point and Dowling St; a cluster of Hoary-headed Grebe nests 15-20m offshore at Dowling St. The newly landscaped "Swan Pool" or Lake Lodge lagoon is being explored by Purple Swamphens, Black Swan and a Dusky Moorhen with chick. Wattles and oaks have been planted around the perimeter. Water Ribbons and reeds have been left to spread. A vertical wall has been built on the Lodge side of the lagoon with a lookout/seating platform; around the outer rim a bluestone wall and wider footpath have been created with gentle slopes on the inside to provide varying depths of water.

Excursion arrangements:

Rokewood via Devil's Kitchen with Greg Binns – leave 2pm, take picnic tea.

Excursion to Corindhap and Rokewood 4/12/05

Leader: Greg Binns

Nine naturalists set out for regions to the south of Ballarat, discomforted by a hot northerly wind. At Devil's Kitchen after a brief interlude – success – the most fearsome of Nature's avian denizens of this patch – a pair of Peregrine Falcons was noted winging away in the distance. Also spotted, an Australian Hobby with pointed wings, Goldfinches, Welcome Swallows, and a Grey Shrike-thrush was heard calling.

At Piggoreet Reservoir Bushland Reserve there was a possible Whistler's nest about 2m off the ground in a Sweet Bursaria bush. Flora noted – Cut-leaf Daisy *Brachyscome multifida*, Field Naturalists' Club of Ballarat floral emblem, *Gardenia*, Black Anther Flax Lily *Dianella revoluta*, Small Grass Trees *Xanthorrhoea minor* – some flowering, mostly on the west side of the road. The noxious Boneseed was present. Also noted were Hovea seedlings *H. heterophylla*, Cotton Fireweed *Senecio quadridentatus,* and a coral lichen was handed in. Painted Lady butterflies were observed.

The next stop at a disused wooden road bridge over Misery Creek on the road between Berringa and Dereel, an abundance of Annual Fireweed *Senecio glomeratus* was noted in the bed of the creeks. Also noted was Grey Everlasting Daisy *Ozothamnus obcordatus* beside the road.

Our convoy passed through Dereel and Corindhap and arrived at Rokewood Cemetery where a host of wild plants was identified, viz:

- Slender Sun-orchid (in bud) *Thelymitra pauciflora*
- Rough Speargrass *Austrostipa glabra*
- Fibrous Speargrass*Austrostipa semibarbata*
- Kangaroo Grass *Themeda triandra*
- Feather Heads *Ptilotus macrocephalus*
- Blue Devil *Eryngium ovinum*
- Lemon Beauty-heads *Calocephalus citreus*
- Common Everlasting *Chrysocephalum apiculatum*
- Clustered Everlasting *Chrysocephalum semipapposum*
- Scaly Buttons *Leptorhynchos squamatus*
- Wiry Buttons *Leptorhynchos tennifolius*
- Hoary Sunray *Leuchochrysum albicans*
- Sprawling Bluebell *Wahlenburgia gracilis*
- Pink Bindweed *Convolvulus erubescens*
- Common Centaury *Centaurium erythraea (introduced)*
- Spur Velleia *Velleia paradoxa*
- Lightwood *Acacia implexa*
- Black Wattle *Acacia mearnsii*
- Hedge Wattle *Acacia paradoxa*

- Golden Wattle *Acacia pycnantha*

Trees: Drooping Oak *Allocasuarina verticillata*
River Redgum *Eucalyptus camaldulensis.*

Half an hour later we arrived at the Old Rokewood Reservoir – a substantial embankment holding back a smallish pond. The reservoir is not now used for town water supply – this is supplied from Ballarat, but this old one is now used to fill the local swimming pool.

Birds observed here were Grey Shrike-thrush, White-plumed Honeyeater, Black-fronted Dotterel, Yellow-rumped Thornbill, Galah, Goldfinches, Blackbird, Black-shouldered Kite. A Straw-necked Ibis was seen flying above the adjoining cemetery and a Red-rumped Parrot was heard calling.

River Redgums grew in the embankment and also growing profusely was Hedge Wattle. The introduced Pink Centaury was present. Kangaroo Grass grew prolifically in the paddock between the cemetery and the reservoir – its even-growth attributed to regeneration after occasional burning. Dried-up freshwater mussels were found along the water's edge.

After a bite to eat a stillness having descended over the region and a final circumambulation of the reservoir, our excursion was drawn to a close.

Tony Johns.

In Tony John's Ormond College, Melbourne magazine:

"Ormond newest residents, two Powerful Owls, have found a comfortable perch high up in the pittosporum tree beside the southern door into Main Building. At night they can be seen on the balustrade by the Vesti Door, or swooping across Picken Lawn. We hope they will find life at College congenial and invite their friends to stay."



Medallion Presentation to Carol Hall

(See the full report in Dec *Naturalist*)

The medallions are presented to members who have made an outstanding contribution to our club. Carol joins an illustrious group of other members who have received the medallion in the past including:

1993 - Greg Binns, Pat Murphy

1994 - Frank Harrap, Helen Burgess

1997 - John Gregurke

1999 - Lyndsay Fink

2000 - Margaret Rotheram

2001- Claire Dalman, Bill Murphy.



Medallion recipients: Greg, Carol and Clare

Lake Wendouree Water Supply Task Group
Lake Wendouree Water Supply Report for Minister for Water

Greg Binns recently attended the Lake Burrumbeet Advisory Group meeting and came away with some interesting facts and figures regarding the lake in the light of the plans for maintaining water levels in Lake Wendouree. Of the three lakes, Learmonth, Burrumbeet and Wendouree, the latter has received priority for allocation of environmental water supplies. As of this meeting, Lake Burrumbeet is 24 cm deep and could dry up by the end of January 2006.

Summary:

Key Recommendations as per Regional Action Plan

- Lake Wendouree requires 850 ML over 10 months of the year to maintain the water level within 300mm of full depth 90% of the time
- The water required for Lake Wendouree has a specific quality requirement in terms of managing the environmental and human health risks.
- The water is to be sourced through a low flow diversion from Paul's Drain extracting 230 to 250ML per annum and the use of 600ML of tertiary treated recycled water from the North Ballarat Treatment Plant.

Downstream Impacts (of diverting water from Ballarat North Treatment Plant)

- The North Treatment Plant currently discharges 2000ML/year of treated waste to Burrumbeet Creek, an amount estimated to provide approximately 5.6% of the mean annual volume entering Lake Burrumbeet which has a total capacity of 44,500ML. Annual water entering the lake averages 37,000ML: runoff from catchment 53%, direct rainfall 45%; balance from treatment plant.
- Evaporative losses estimated 20,000-22,000ML/year, and one domestic stock diversion licence for 4.4ML/year. Losses occur through overflows to Baillie Creek during periods of high water level.
- 20% of the phosphorus and 30% of the nitrogen loads may come from the treatment plant, together with large quantities of ammonia which are potentially toxic to aquatic life. Reduction of flow from the plant will not significantly alter nutrient loads due to runoff from present grazing around the lake and urban areas. Since the wastewater originated as fresh water from the Moorabool catchment it was never "natural flow" in this catchment anyway so reduction of flow will have only a minor impact on Lake Burrumbeet. This reduction of flow would reduce the level by only 35mm based on a surface area of 2,400 ha.
- Without treatment plant discharges Burrumbeet Creek would be an ephemeral stream instead of flowing at 5000ML per year (with variations of up to 23% less in a dry year). A reduction in discharge of 600ML to be sent to Lake Wendouree would reduce the impact of additional flows to an otherwise ephemeral stream.
- Additional urban development west of Ballarat is estimated to produce an additional runoff of 815ML/year which would offset other losses.

Christmas BBQ, 2005

A Christmas lunch was held on Saturday 10 December 2005 at the home of Carol Hall.



Twelve members attended and enjoyed a BBQ with shared salads and sweets on a sunny day. Thanks to Carol for opening her home. Special mention of Peter Billing who walked all the way there and home. He is pictured nursing Emma O'Neill. Her proud grandparents, Claire and Peter, hope to introduce her to the bush as she grows.

Taking advantage of a patch of shade is a group at the Christmas lunch.
Missing are the photographer, Claire, and Lorraine and Lyndsay Fink.

Calendar

February

Fri. 3 *Flora and fauna of WA*, by Tony Wilson

Sun. 5 **At 3.30 pm** arrive at Sovereign Hill main entrance for Excursion
Sovereign Hill – Plants of 1860s, by John Harrison

Tues **Feb. 7** Committee meeting at 7.30pm

March

Fri. 3 FNCB members: AGM and members' slides

Sun. 5 Excursion: *Western Treatment Plant, Werribee*. Leader: Greg Binns

Supper duty: March: Volunteers needed April: Volunteers needed

Note-taker: March: Volunteers needed April. Volunteers needed

Committee

President Mr. Peter Dalman

Vice-Pres. Mr. Greg Binns

Secretary Mrs. Carol Hall

Treasurer Mr. Les Hanrahan

Miss Helen Burgess
Miss Maureen Christie
Mrs. Claire Dalman
Mr. John Gregurke.
Ms Fran Hanrahan (Editor)
Mrs. Pat Murphy

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Meetings are held at the Ballarat Horticultural Centre, cnr. Gregory & Gillies Sts (VicRoads 254 F8) on the first Friday of the month at 7.30pm.

Excursions: Depart from Ballarat Market Place (formerly Creswick Plaza) Creswick Rd., Ballarat (VicRoads 255 M10) at 9.30 am unless otherwise specified.

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